

## Completion Certificate No. 3

Date: 20.11.2019  
Loan/Credit N°: 8451-MD / P132443  
ICB N°: 8451-C1.10

**Project: District Heating Efficiency Improvement Project**  
**To: Joint Venture Techno Test SRL and PROMINTERGAZ SRL**  
**Attn: Mr. Gheorghe BURDILA**

Dear Mr. Burdila,

Pursuant to GC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated February 8, 2019, relating to the **Procurement of Plant Design, Supply and Installation of 120 Individual Substations and associated pipes in Chisinau District Heating System**; we hereby notify you that the following parts of the Facilities were complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said parts of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

I. Description of the Facilities or part thereof:

The following consistent (general) works were carried out:

- installation of DH pipes
- preparation and repairs of rooms
- installation on new DH substations
- connection of the new DH substations to the DH, CW, SH, DHW, DHWRC systems
- installation of electrical equipment, automation of the control system, valves, strainers, piping and electricity supply systems.

The installation/reconstruction works have been performed for the following objects:

1. **Object 30:**

- IHS S104 – str. Voluntarilor 8/1 s.1;
- IHS S105 – str. Voluntarilor 8/1 s.2;
- IHS S106 – str. Voluntarilor 10 s.1;
- IHS S107 – str. Voluntarilor 10 s.2;
- IHS S108 – str. Voluntarilor 10 s.3;
- IHS S109 – str. Voluntarilor 12 s.1;
- IHS S110 – str. Voluntarilor 12 s.2;
- IHS S111 – str. Voluntarilor 12 s.3;
- IHS S112 – str. Voluntarilor 12/1 s.1;
- IHS S113 – str. Voluntarilor 12/1 s.2;
- IHS S114 – str. Voluntarilor 12/1 s.3.

*DH associated pipes:*

Pre-insulated steel pipe with signal wire – DN114,3 ≈ 52 m;

Electro-welded steel pipe – DN108 ≈ 35 m; DN57 ≈ 5 m; DN45 ≈ 1 m.

2. **Object 32:**

IHS S117 – str. Voluntarilor 16;  
IHS S118 – str. Voluntarilor 18/1;  
IHS S119 – str. Voluntarilor 18/2;  
IHS S120 – str. Voluntarilor 18/3.

*DH associated pipes:*

Pre-insulated steel pipe with signal wire – DN114,3 ≈ 175 m; DN88,9 ≈ 46m;

Electro-welded steel pipe – DN108 ≈ 2 m; DN89 ≈ 7 m; DN76 ≈ 1,5 m; DN45 ≈ 5,5 m; DN32 ≈ 6,5 m.

II. Date of Completion: November 20, 2019.

However, you are required to complete the outstanding items listed in the Attachment 1, 2 and 3 (beneficiary's objections) hereto as soon as practicable.

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

Project Manager

Ovidiu Radu

MEPIU Technical Supervisor

Iulian Tovarnițchi

Responsible from „Termoelectrica” SA: Carolina Cebotari

Alexandru Lupan

Larisa Dimitriu

Viorel Babii

Alexandru Bucățel

Tatiana Comaniuc

Andrei Prepelită

Veaceslav Djelali

Sergiu Berezan

**Attachment 1 to the Completion Certificate**

of November 20, 2019 under the Contract No. 8451-C1.10

**Outstanding items under the Contract to be completed by the Contractor:**

- S104, S105 - 1) PE strip is not painted; 2) the door opening sensor is not installed; 3) cleanliness must be ensured;
- S106, S107 - 1) PE strip is not painted; 2) the heat exchanger insulation is missing;
- S108, S110 - 1) the door opening sensor is not installed; 2) the heat exchanger insulation is missing; 3) PE strip is not painted;
- S109 - 1) the door opening sensor is not fixed properly; 2) the heat exchanger insulation is missing; 3) PE strip is not painted; 4) the ground wire is not fastened to the PE strip; 5) a bulb is missing in one of the dome lights;
- S111 - 1) the door opening sensor is not fixed properly; 2) the heat exchanger insulation is missing; 3) the ground wire at the vibration damper is weakly fixed at the bolts;
- S112 - 1) the door opening sensor is not installed; 2) the heat exchanger insulation is missing; 3) the PE strip is not fixed to the floor and presents a danger for moving around the installation;
- S113 - 1) the door opening sensor is not installed; 2) PE strip is not painted;
- S114 - 1) the heat exchanger insulation is missing; 2) PE strip is not painted; 3) the bolts are not tightened at the grounding wire for equalizing the potentials (at the vibration damper);
- S117 - 1) the heat exchanger insulation is missing; 2) the external DH pipes are not isolated;
- S118 - 1) the pressure gauge leaks at the socket; 2) the ground wire is not fastened to the PE strip;
- S119 - 1) the door opening sensor is not fixed properly; 2) the PE strip is not fixed to the floor and presents a danger for moving around the installation; 3) the servomotors are missing; 4) the glass of a dome light is missing;
- S120 - 1) defective pressure gauge; 2) the dome light is not fixed well on the ceiling; 3) grounding on the PE strip not executed;

**Attachment 2 to the Completion Certificate**

of November 20, 2019 under the Contract No. 8451-C1.10

**Works that were not completed by the Contractor or that for which the provisions of the project were not respected:**

S117, S118, S119, S120 - the modem for remote data transmission is not set.

S105 - IHS installed too close to the wall and does not allow operation as well as maintenance at the back of the equipment;

S118 - in the DP the cables are connected to each other with insulation tape and present a short circuit danger;

S119 - the bulb is incandescent (inefficient) dome light that also misses the protective glass.

Attachment 3 of November 20<sup>th</sup>, 2019.

ACT  
de verificare

OBIECT: Sd-1, Sd-3, Sd-4, Sd-5, Sd-6, Sd-7, S3-1, S3-2, S3-3, S3-4, S3-5, S3-6, S3-7, S3-8, S3-9, S3-10, S3-11, S3-14, S3-15, S3-16, S3-17.

Scopul

Corespunderea instalației montate cu proiectul.  
Verificarea documentației de execuție.  
Corespunderea instalației montate cerințelor DNT.

Caracteristica succintă a instalației electrice examinată vizual:

1. Categoria de alimentare III
2. Sistem de alimentare TN-C-S
3. Tensiunea nominală 220/380V
4. Puterea electrică 3kW;
5. Tipul încăperii conform cerințelor securității electrice - încăpere deosebit de periculoasă

Neajunsurile depistate:

În rezultatul examinării vizuale și în rezultatul efectuării măsurărilor și încercărilor, au fost depistate următoarele neajunsuri:

1. La panouri electrice lipsesc marcajul automatelor
2. Lipsesc denumirile de dispecerat la panouri electrice.
3. Lipsese etichete de marcaj pe cabluri în PD.
4. La conexiunile de iluminat lipsește cauciucul conductorului PE.
5. Nu este indicată tensiunea de lucru prizele electrice.
6. Măsurtoarea de împănăntare nu este realizată în culoarea neagră.
7. Nu este realizată alegerea potențialului conform proiectului.
8. Executarea conexiunilor la cablurile în PD nu corespunde cu documentația normativ- tehnică.
9. Nu sunt îndeplinite cerințele p. 4.1.31. NAIE.
10. Nu este prezentată documentația tehnică de predare - primire a lucrărilor de instalații electrice.
11. De înlocuit contor trifazat de tip "LUN 4" (conform proiectului).

Concluzii:


Instalația electrică:

poate merge în funcție după eliminarea  
neajunsurilor depistate.

Membrii:

Delavetski G  
Neble V  
Patucri S

26. 11. 2019

  
Bubner

«TERMoeLECTRICA» S.A.  
SERVICIUL  
ELECTRIC

S.A. TERMoeLECTRICA  
LABORATORUL  
ELECTROTENIC

